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PRECAST NOTES

HORSE-POWER.

Nominal Horse-power.—This term is employed as a measure for the size of engines and relates to the cubic contents of cylinders. It has almost gone out of use, because the condition of speed and pressure assumed do not apply to modern practice. For commercial purposes and for those not acquainted with mechanics, it is a convenient form for defining the size of engines. The nominal horse-power of a modern high-pressure engine is about four-tenths of its actual power. A rule for computing is to multiply the square of the cylinder's diameter in inches by the cubic root of the stroke in the feet and divide by four.

Indicated Horse-Power.—This term is employed to define the pressure exerted by the pistons of engines and is the mean pressure multiplied by the area of the piston in inches and by the velocity in feet per minute. This gives foot-pounds, that is, pounds raised one foot high in a minute; 33,000 of these foot-pounds are estimated at one horse-power, so that dividing by this number gives the indicated horse-power.

Actual Horse-Power.—From the indicated power of an engine there must be deducted certain losses by friction in the engine, friction of transmitting machinery, clearance at the ends of the cylinder, and leaks; so the actual performance of the engines, estimated from a second mover, is commonly ten per cent. less than the computed or indicated power.